100

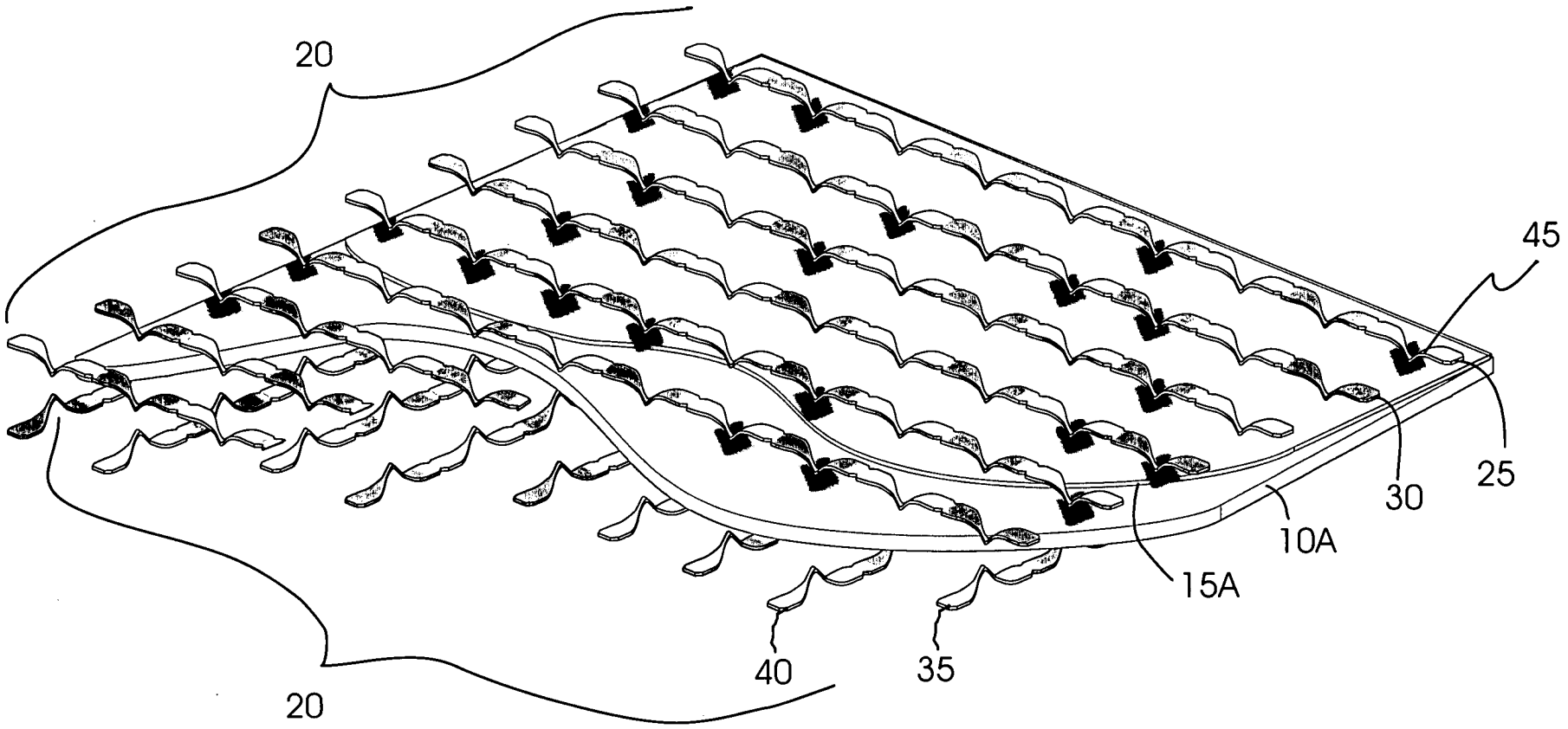


FIG. 1A

100

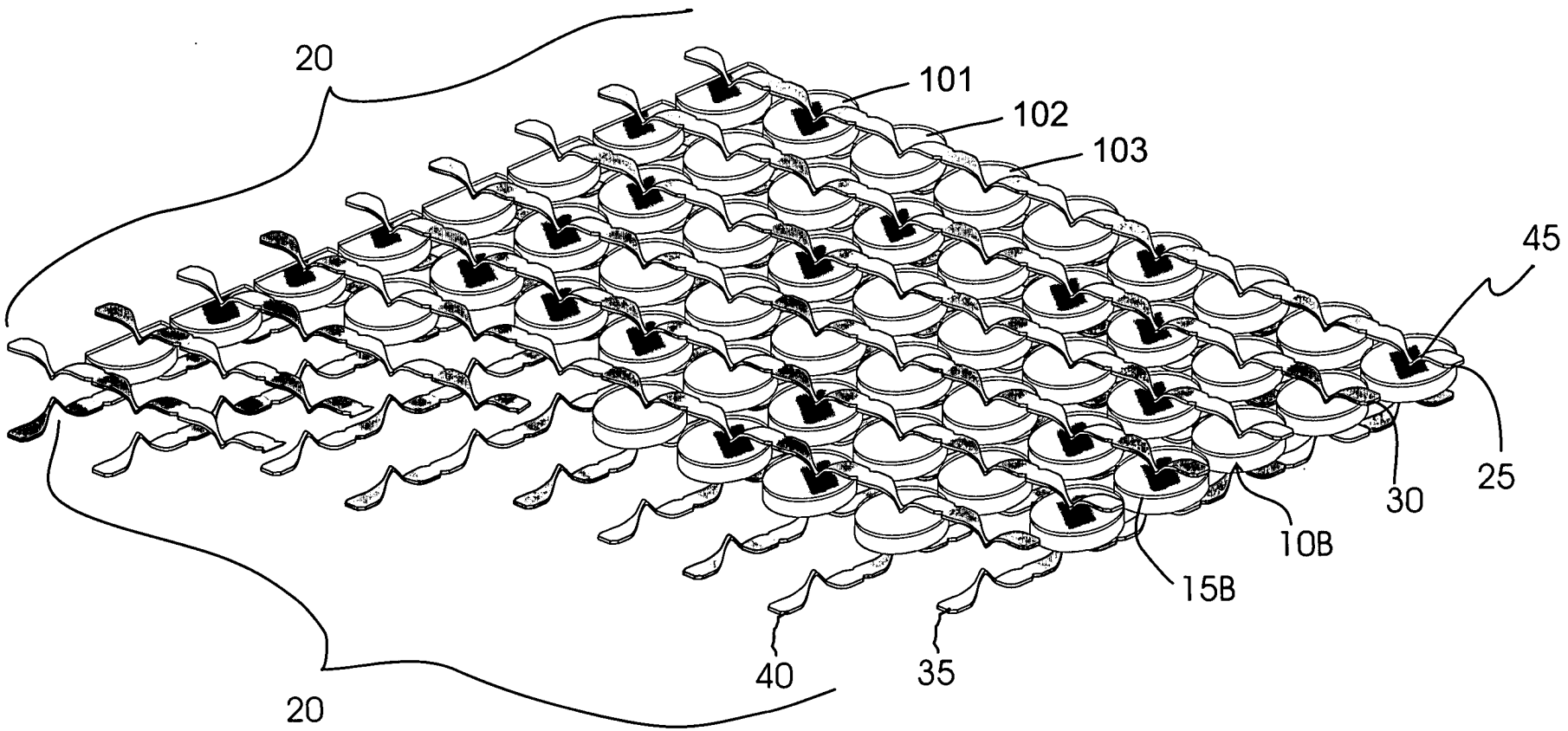


FIG. 1B

100

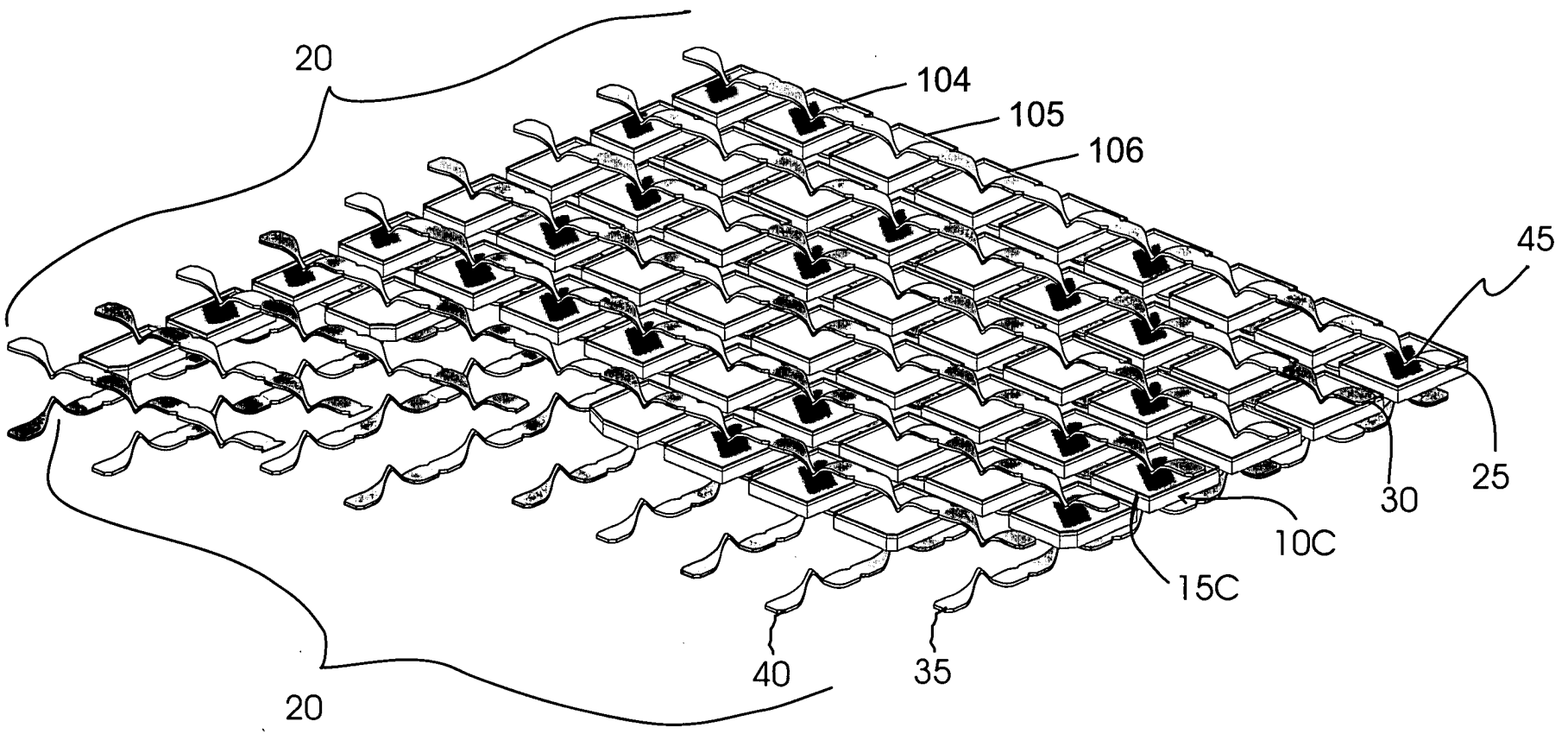


FIG. 1C

100

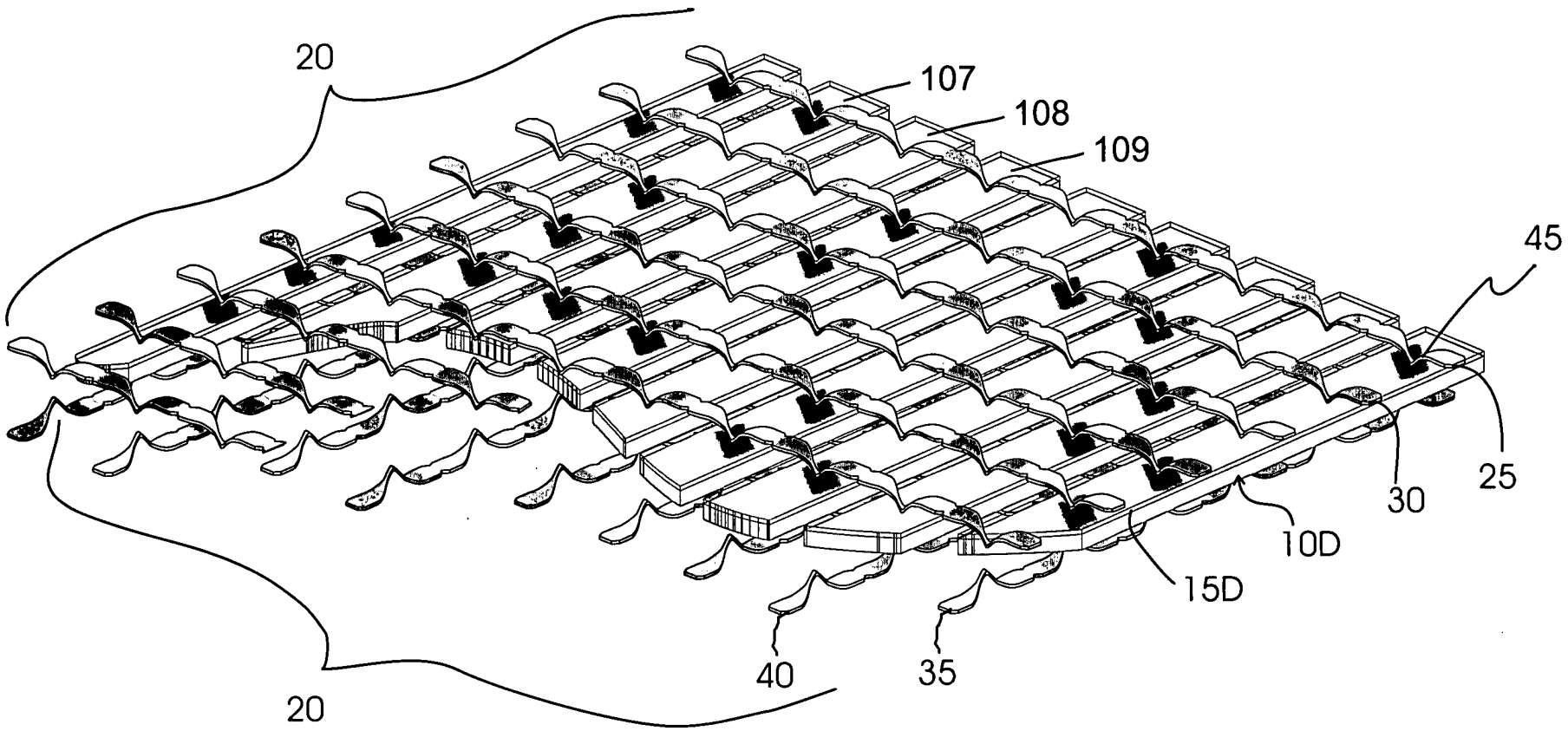


FIG. 1D

100

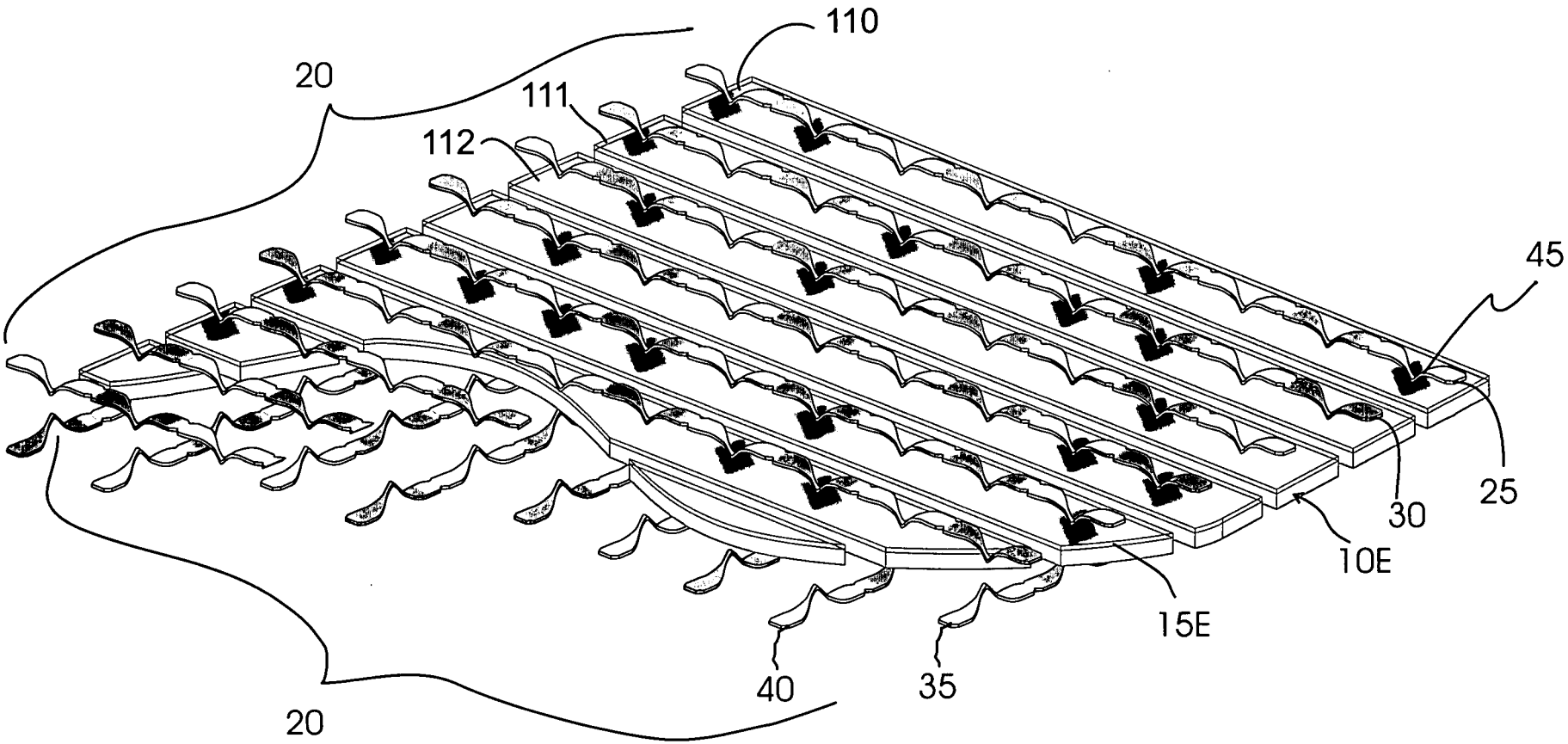


FIG. 1E

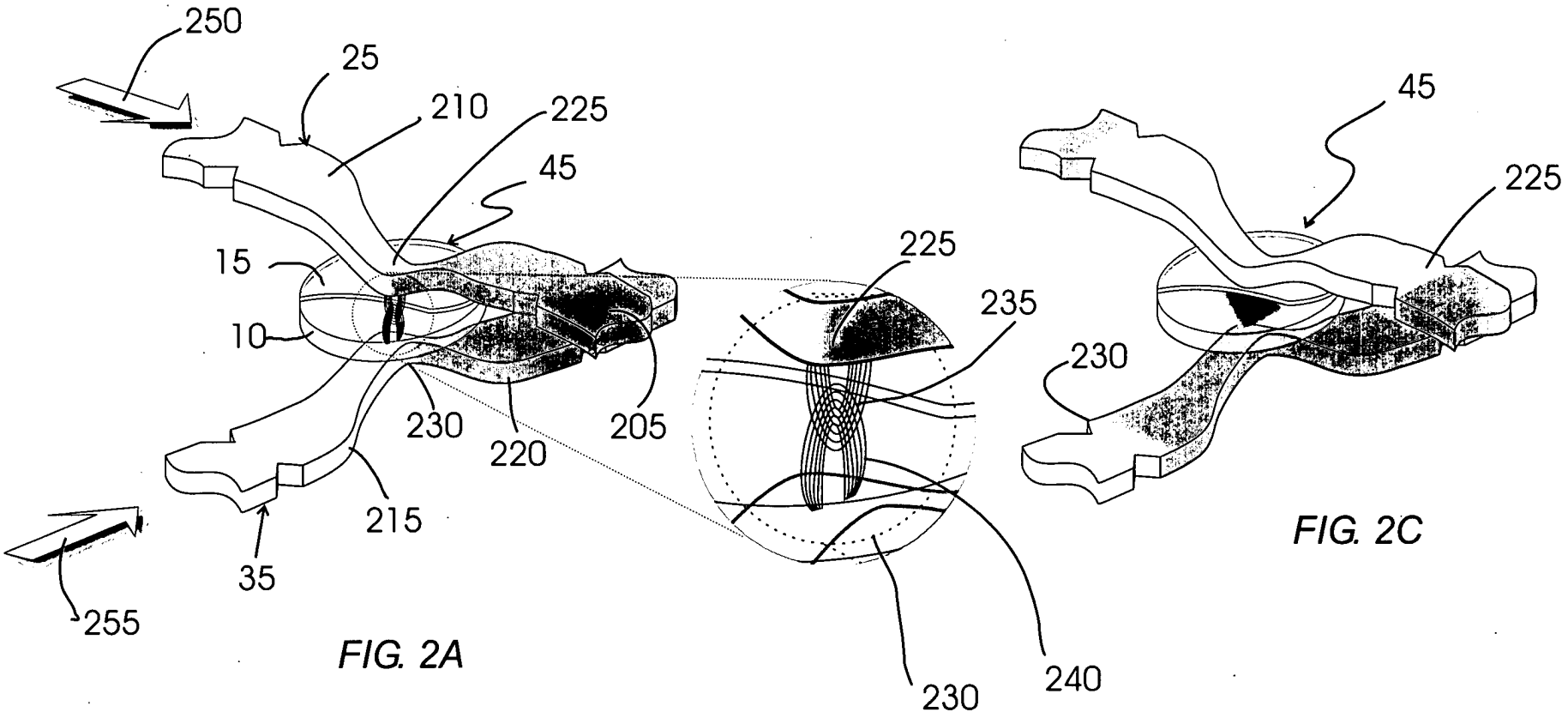


FIG. 2A

FIG. 2B

FIG. 2C

FIG. 2

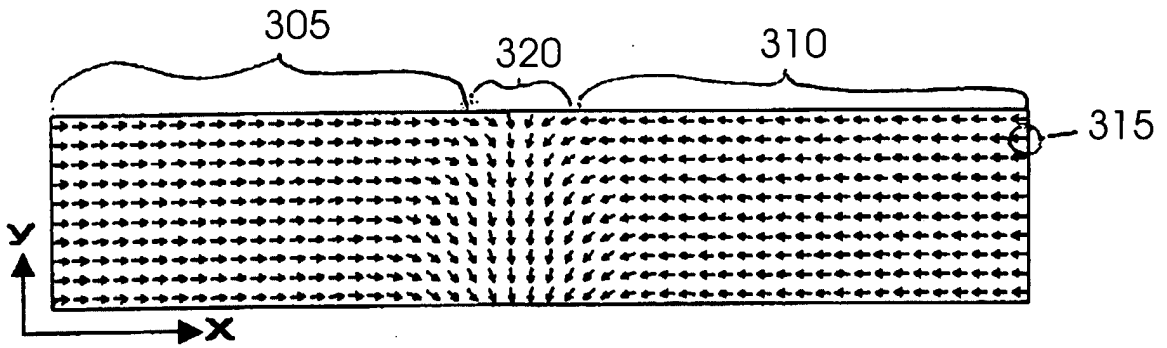


FIG. 3A

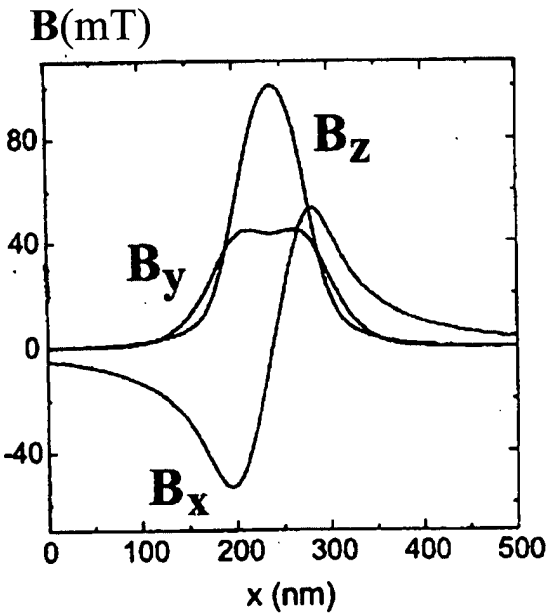


FIG. 3B

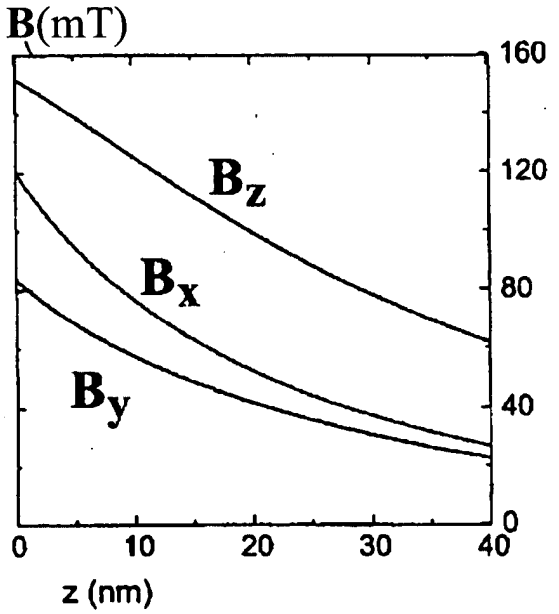
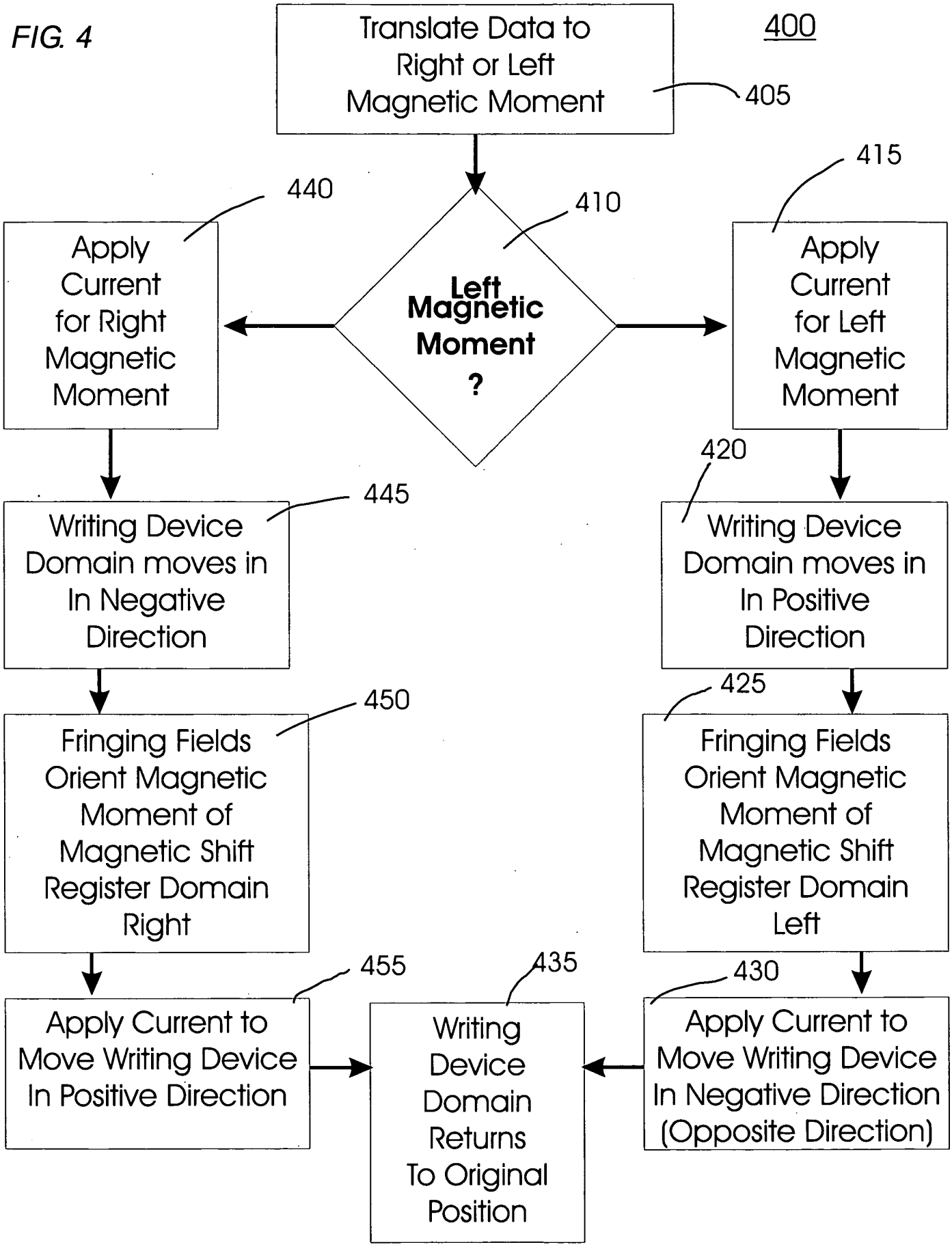


FIG. 3C

FIG. 4


400
Translate Data to Right or Left Magnetic Moment
405
Left Magnetic Moment ?
410
440
Apply Current for Right Magnetic Moment
415
Apply Current for Left Magnetic Moment
445
Writing Device Domain moves in In Negative Direction
420
Writing Device Domain moves in In Positive Direction
450
Fringing Fields Orient Magnetic Moment of Magnetic Shift Register Domain Right
425
Fringing Fields Orient Magnetic Moment of Magnetic Shift Register Domain Left
455
Apply Current to Move Writing Device In Positive Direction
435
Writing Device Domain Returns To Original Position
430
Apply Current to Move Writing Device In Negative Direction (Opposite Direction)

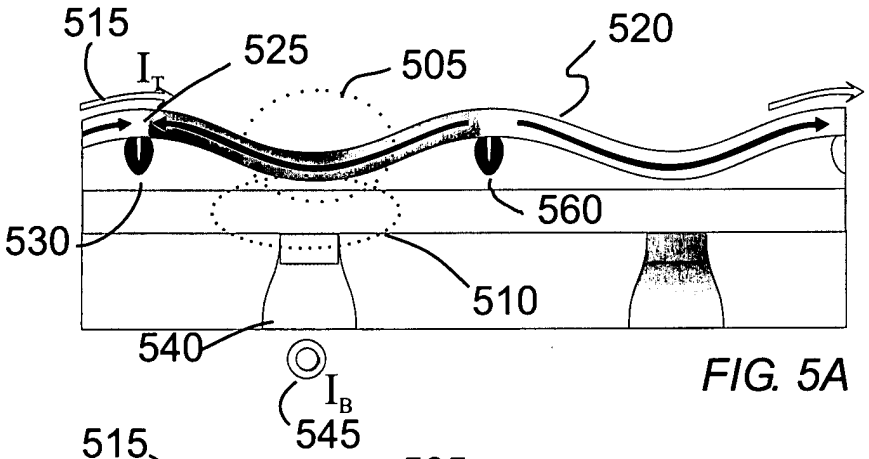


FIG. 5A

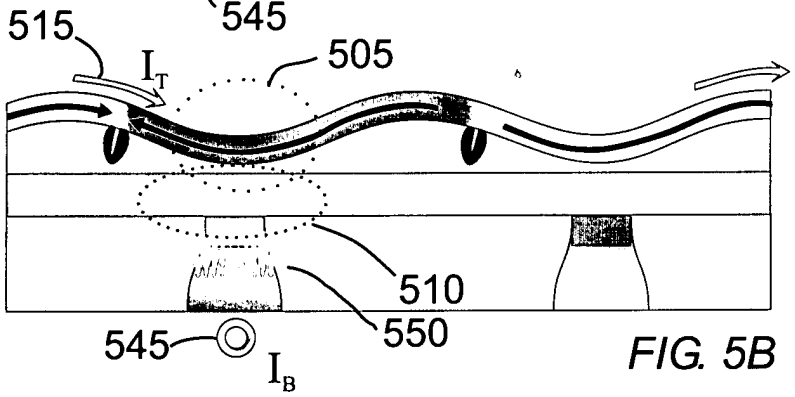


FIG. 5B

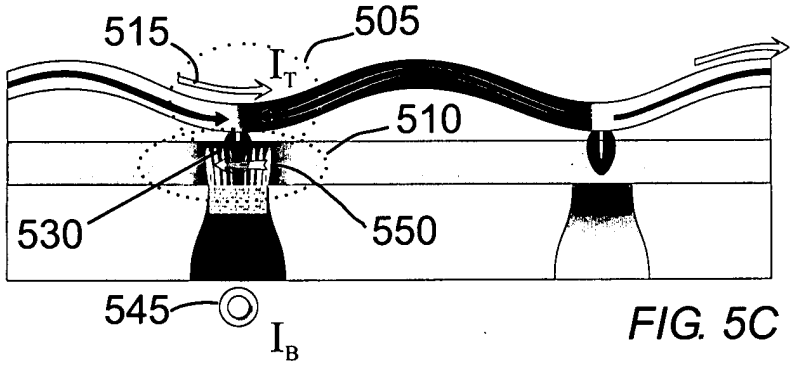


FIG. 5C

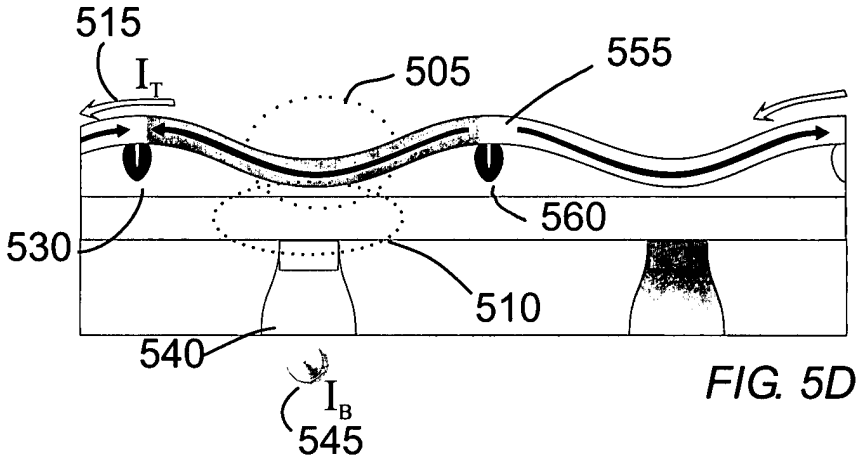


FIG. 5D

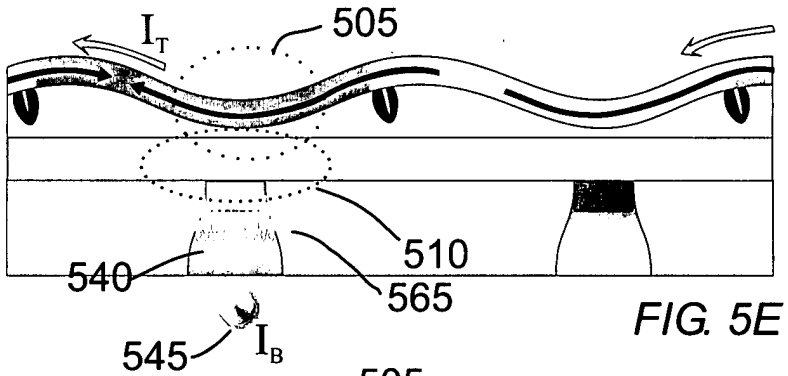


FIG. 5E

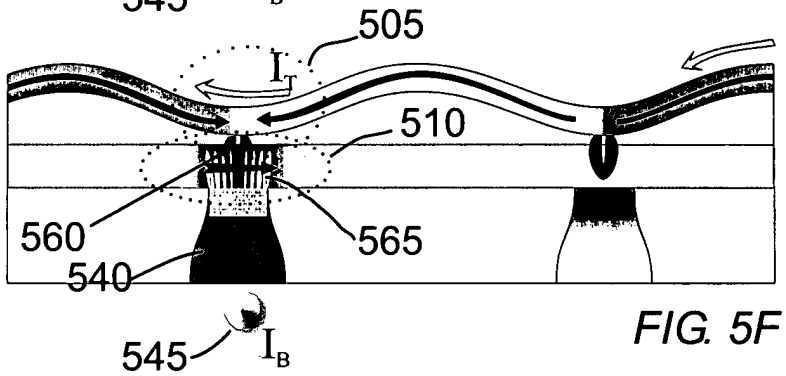


FIG. 5F

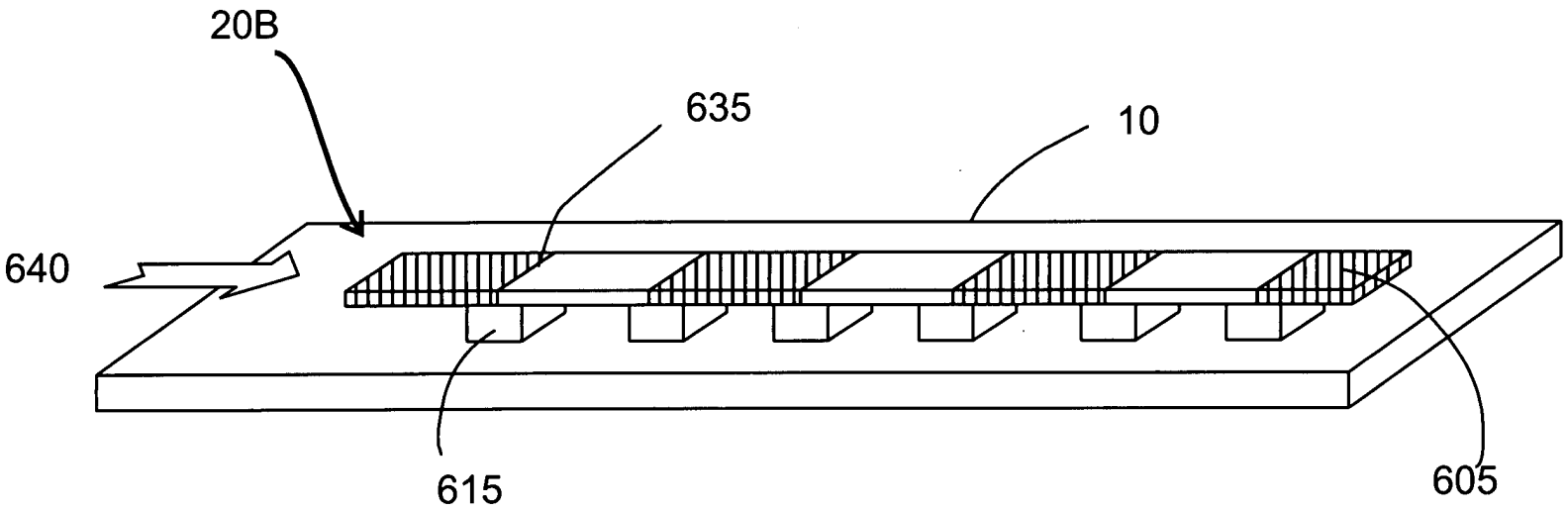


FIG. 6A

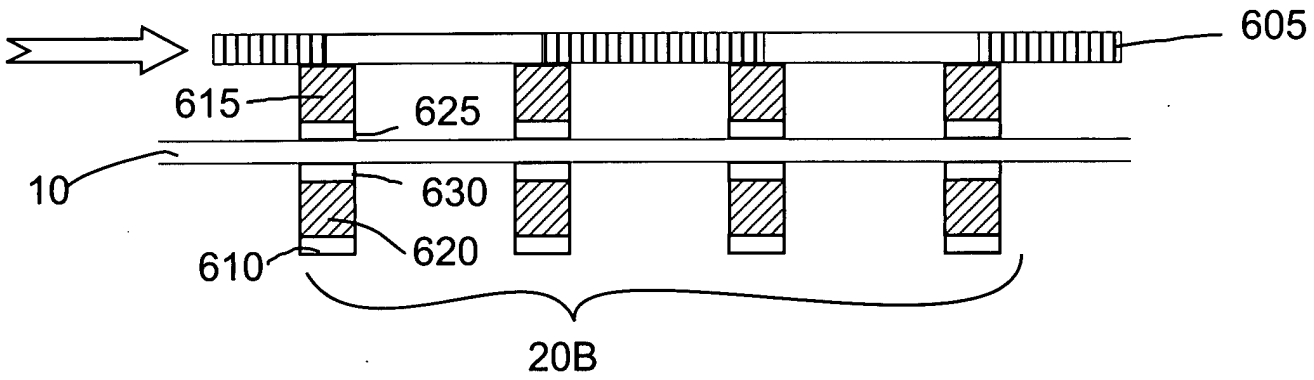


FIG. 6B

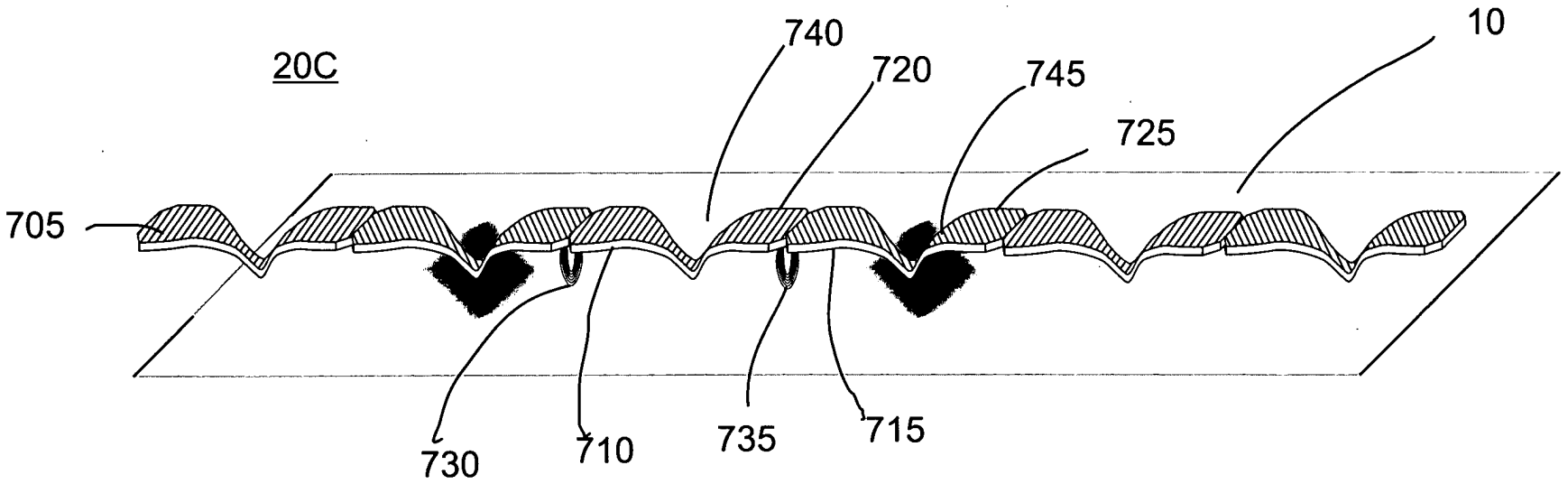


FIG. 7

20D

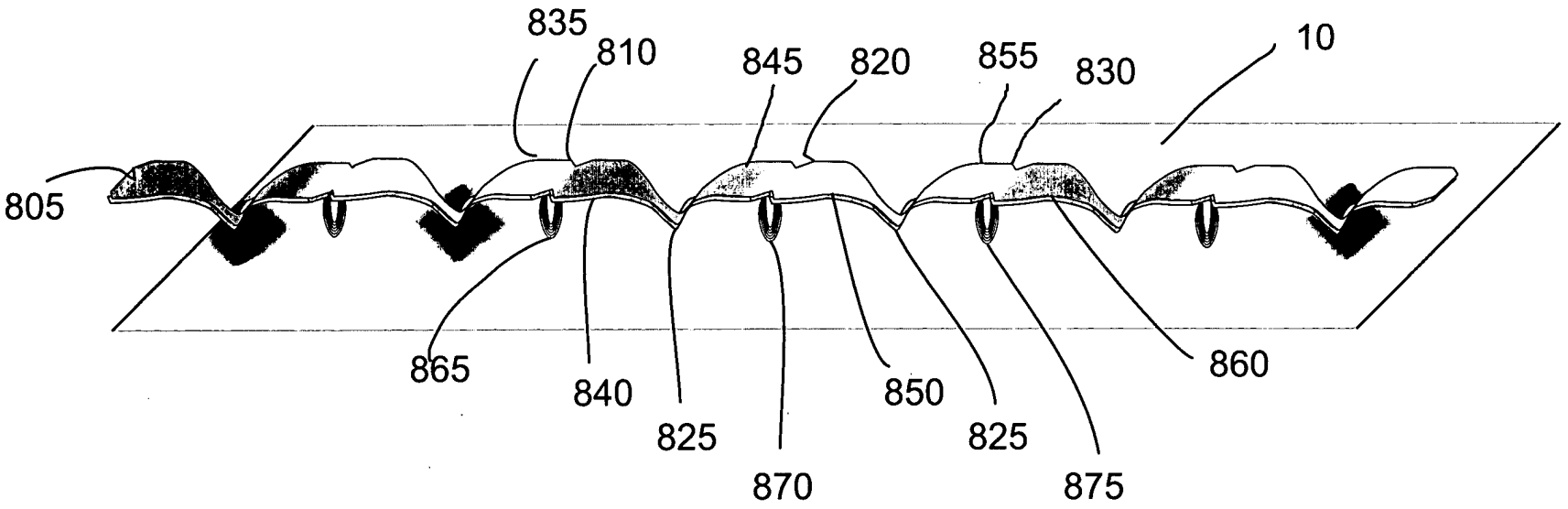


FIG. 8

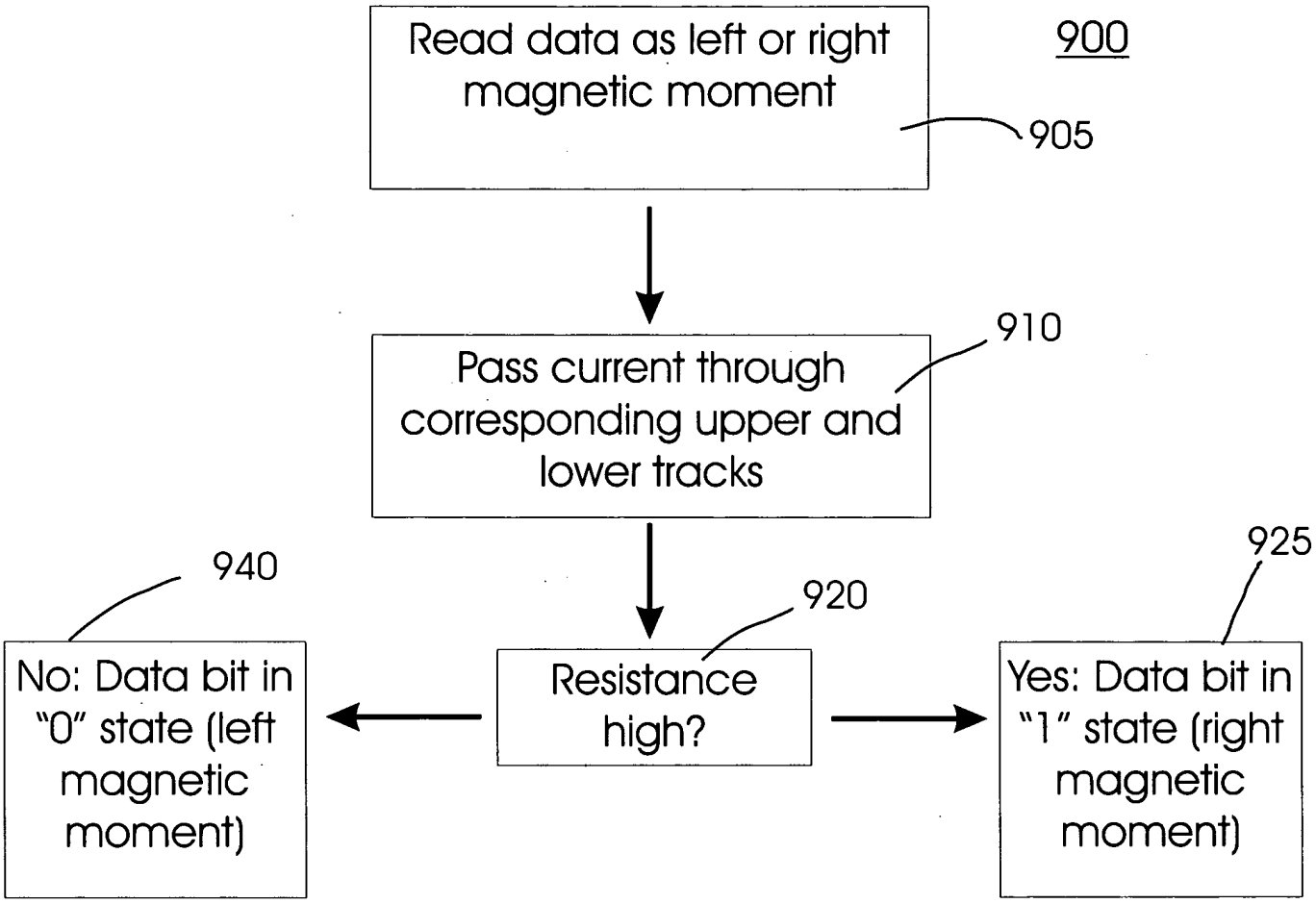

Read data as left or right magnetic moment
900
905
Pass current through corresponding upper and lower tracks
910
Resistance high?
920
925
Yes: Data bit in "1" state (right magnetic moment)
940
No: Data bit in "0" state (left magnetic moment)

FIG. 9

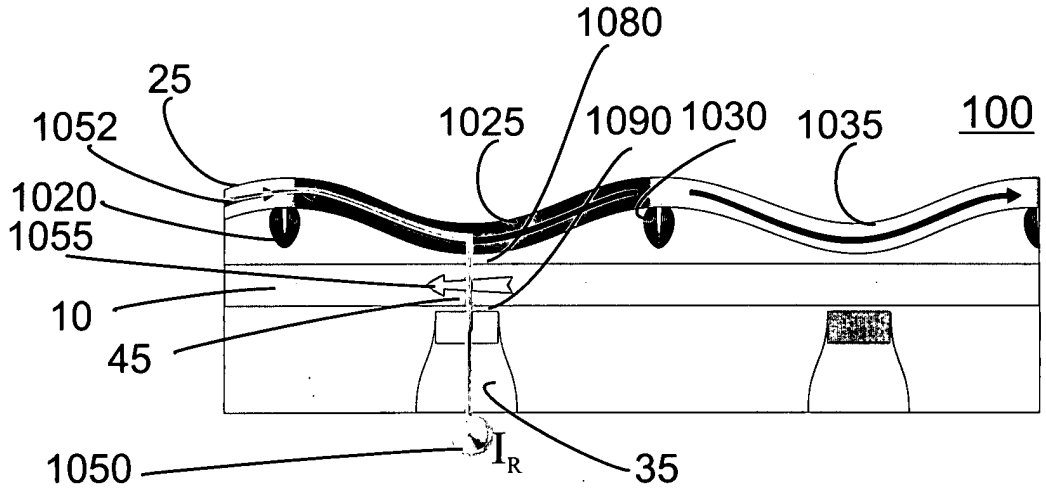


FIG. 10A

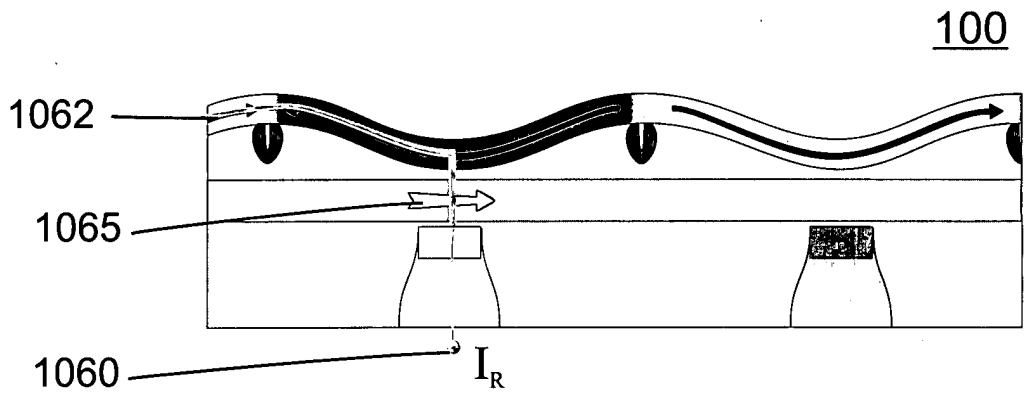


FIG. 10B

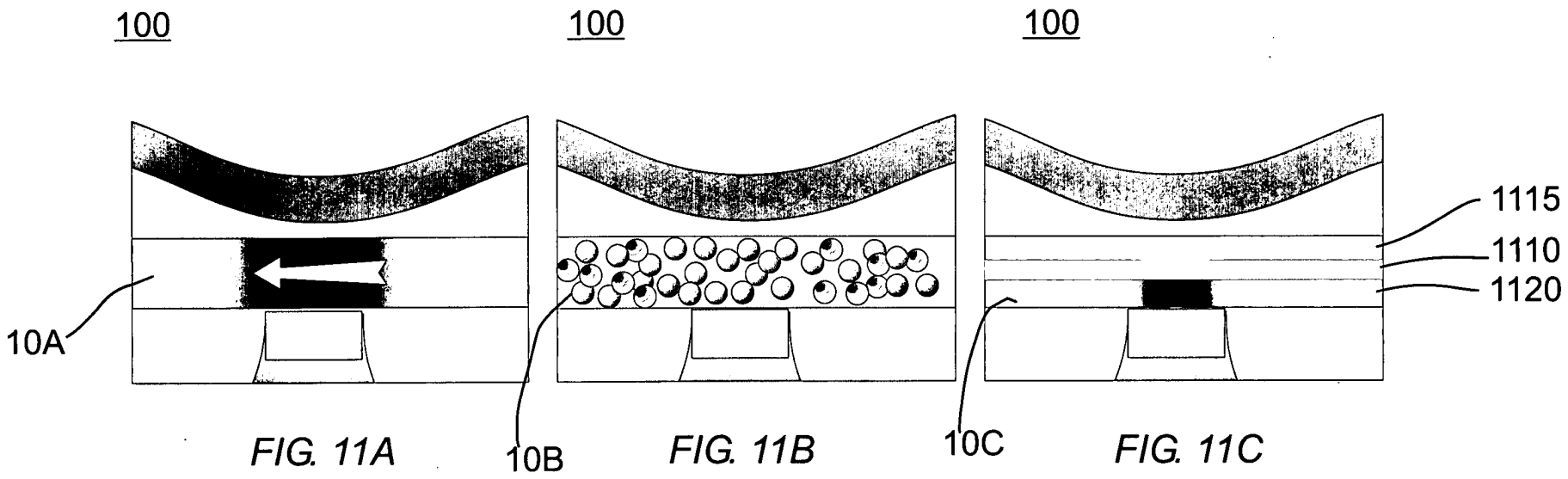


FIG. 11A FIG. 11B FIG. 11C

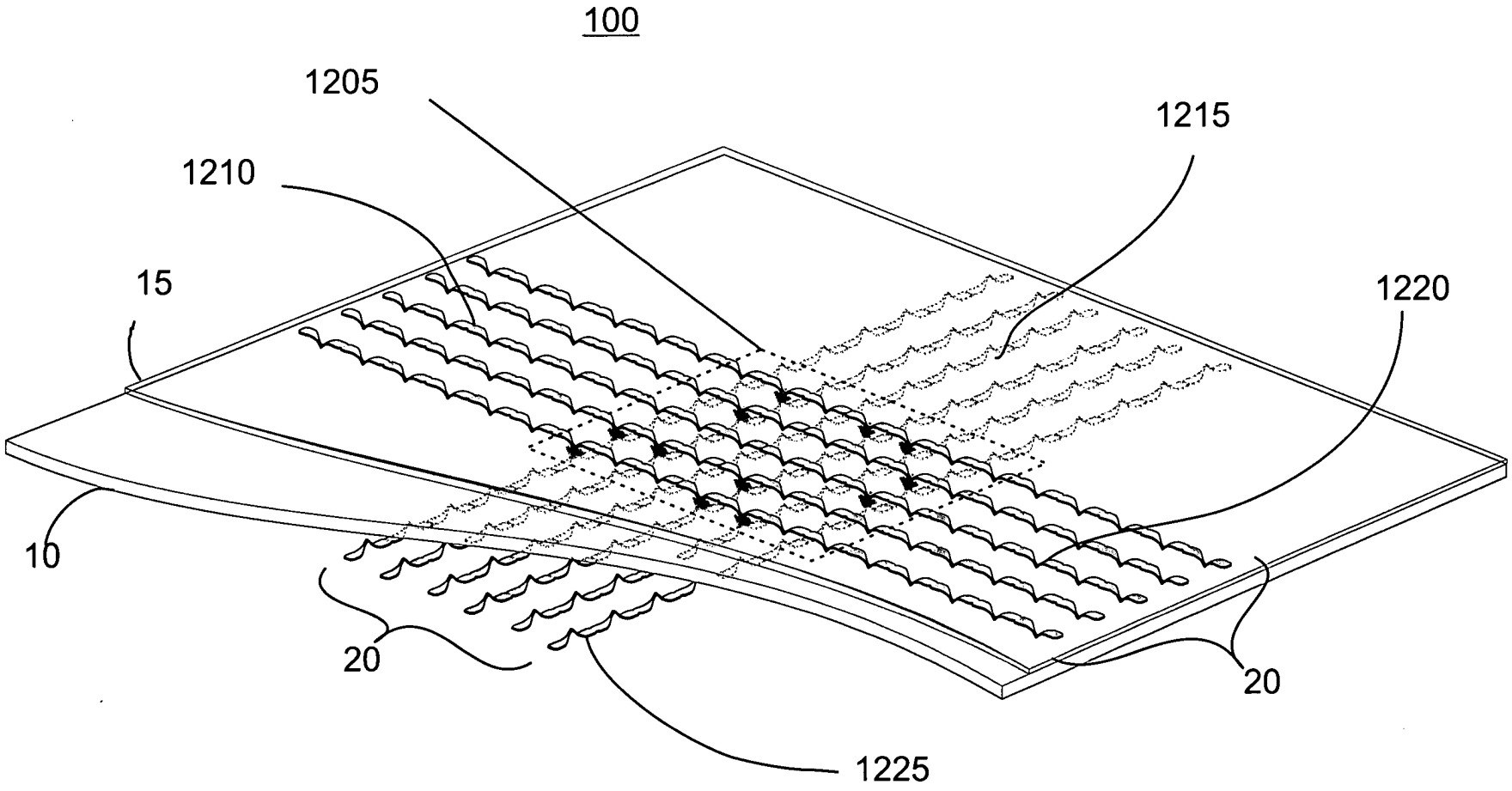


FIG. 12

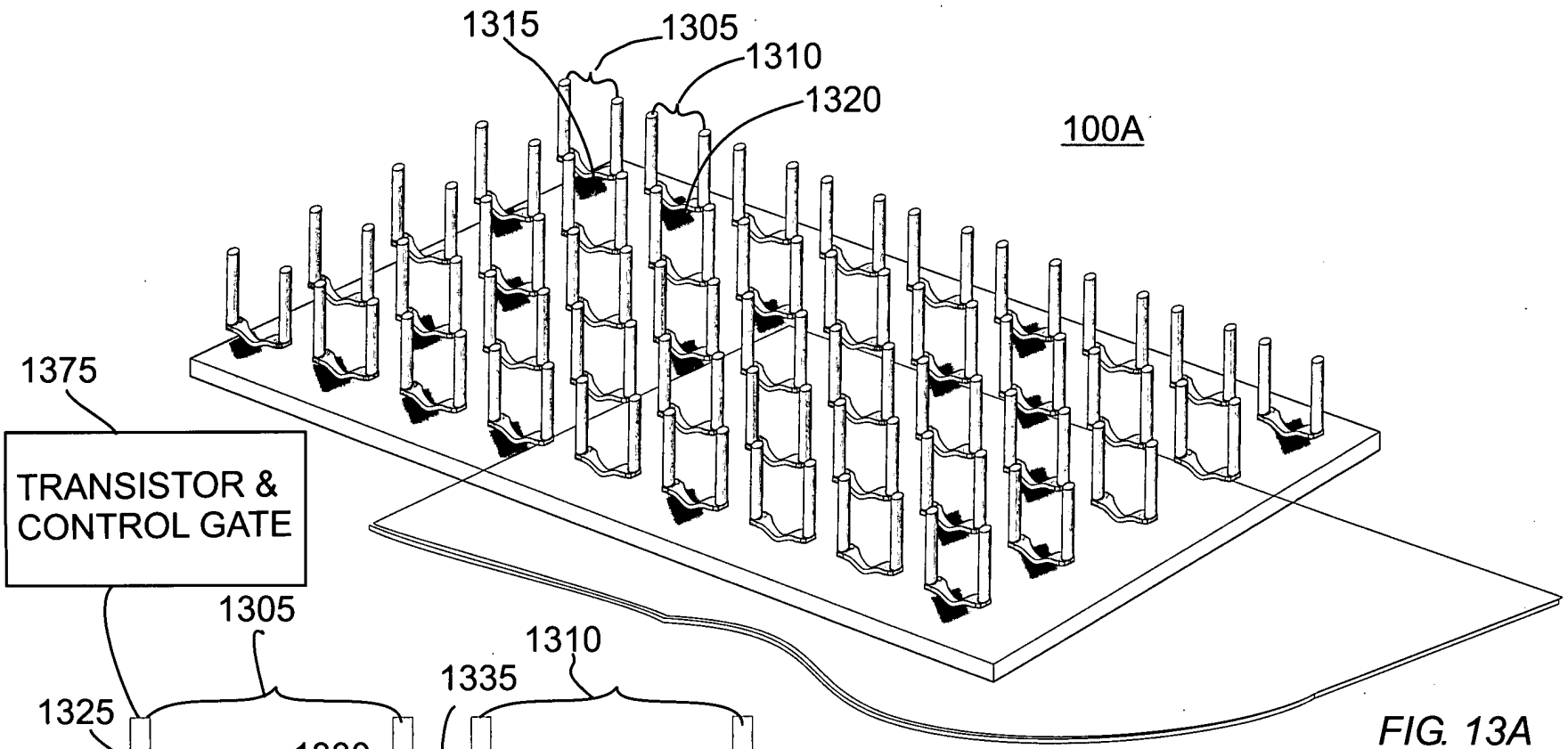


FIG. 13A

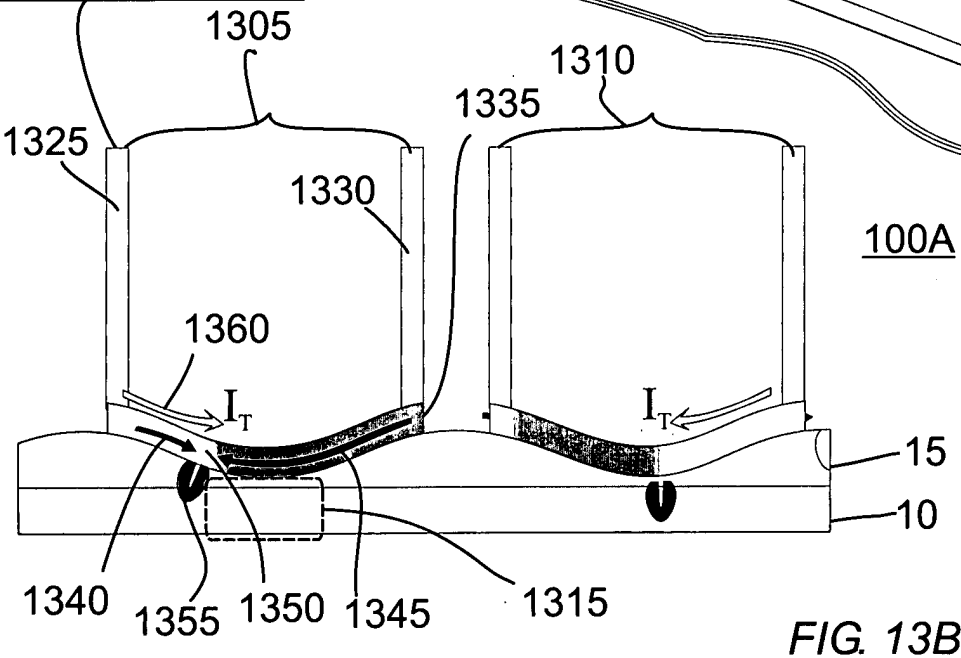


FIG. 13B

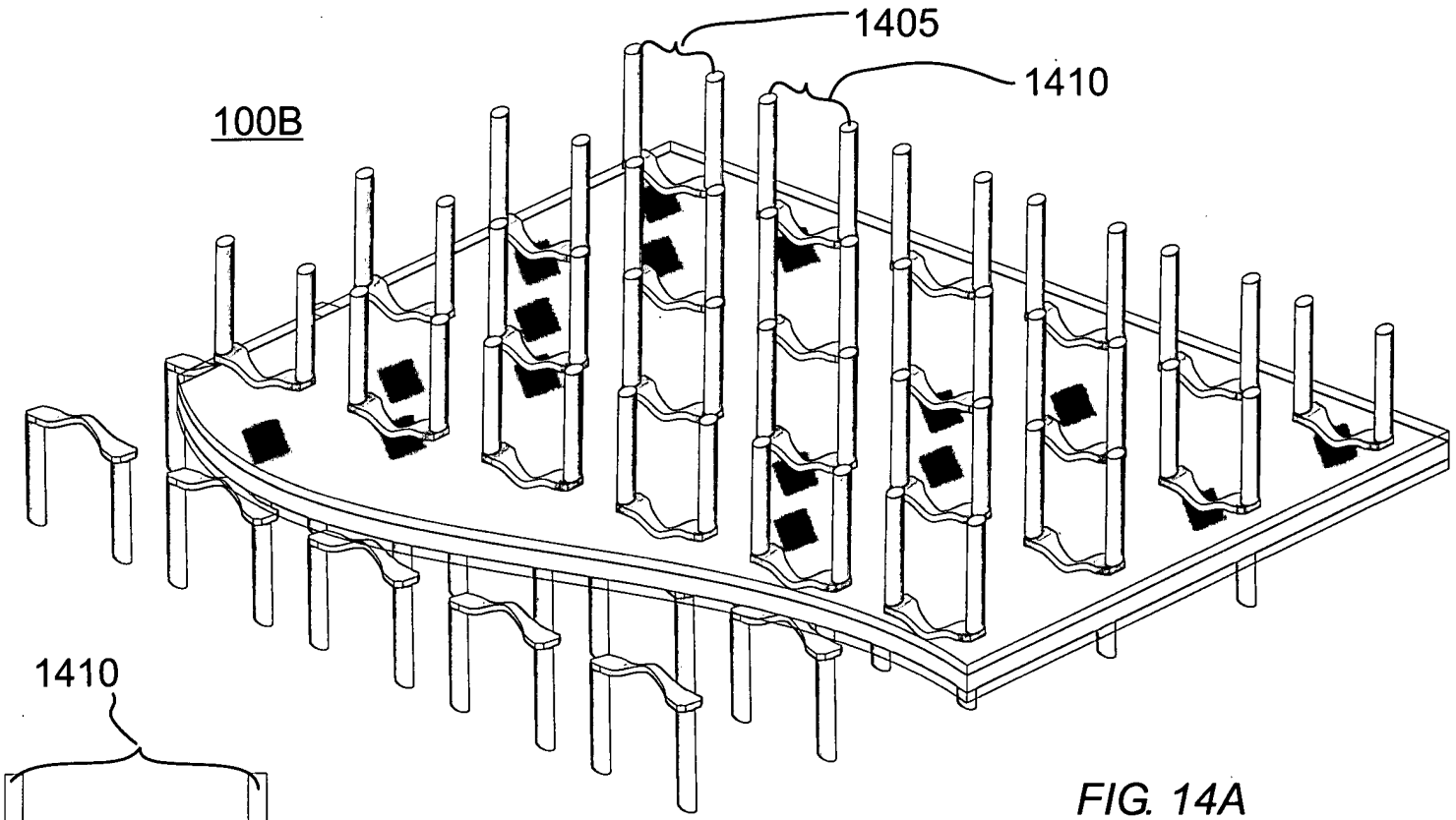


FIG. 14A

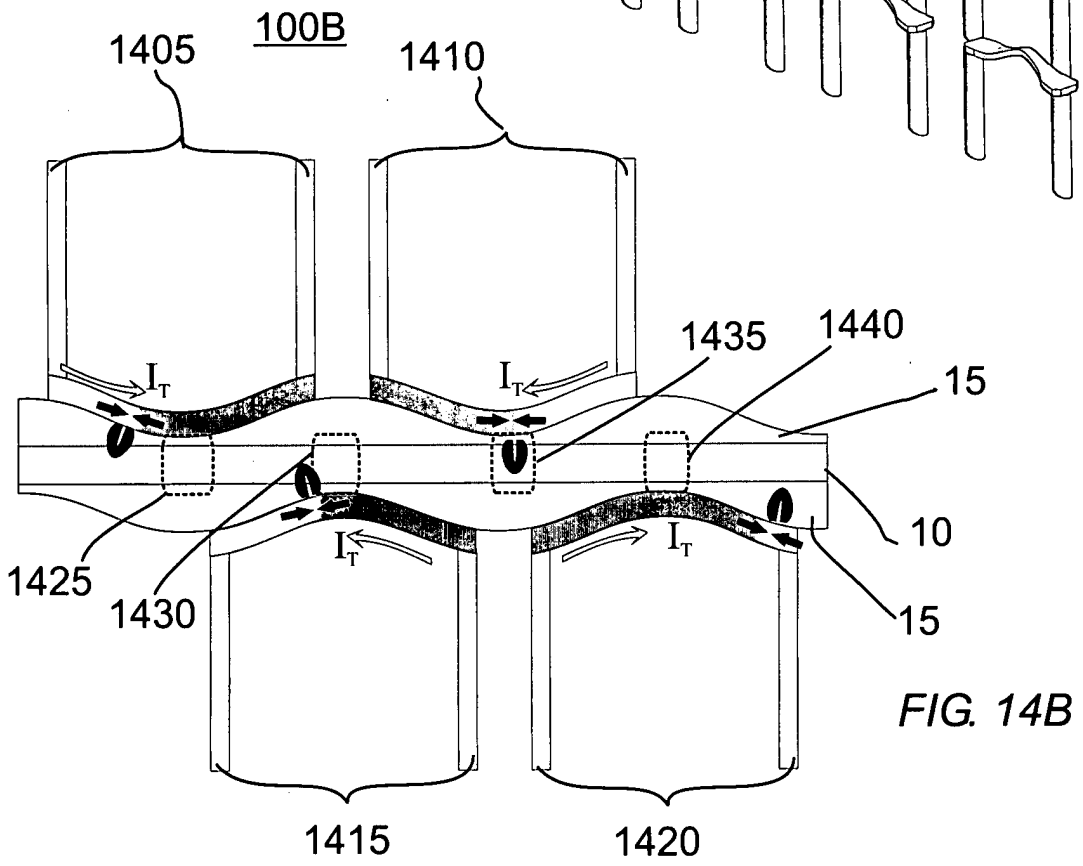


FIG. 14B

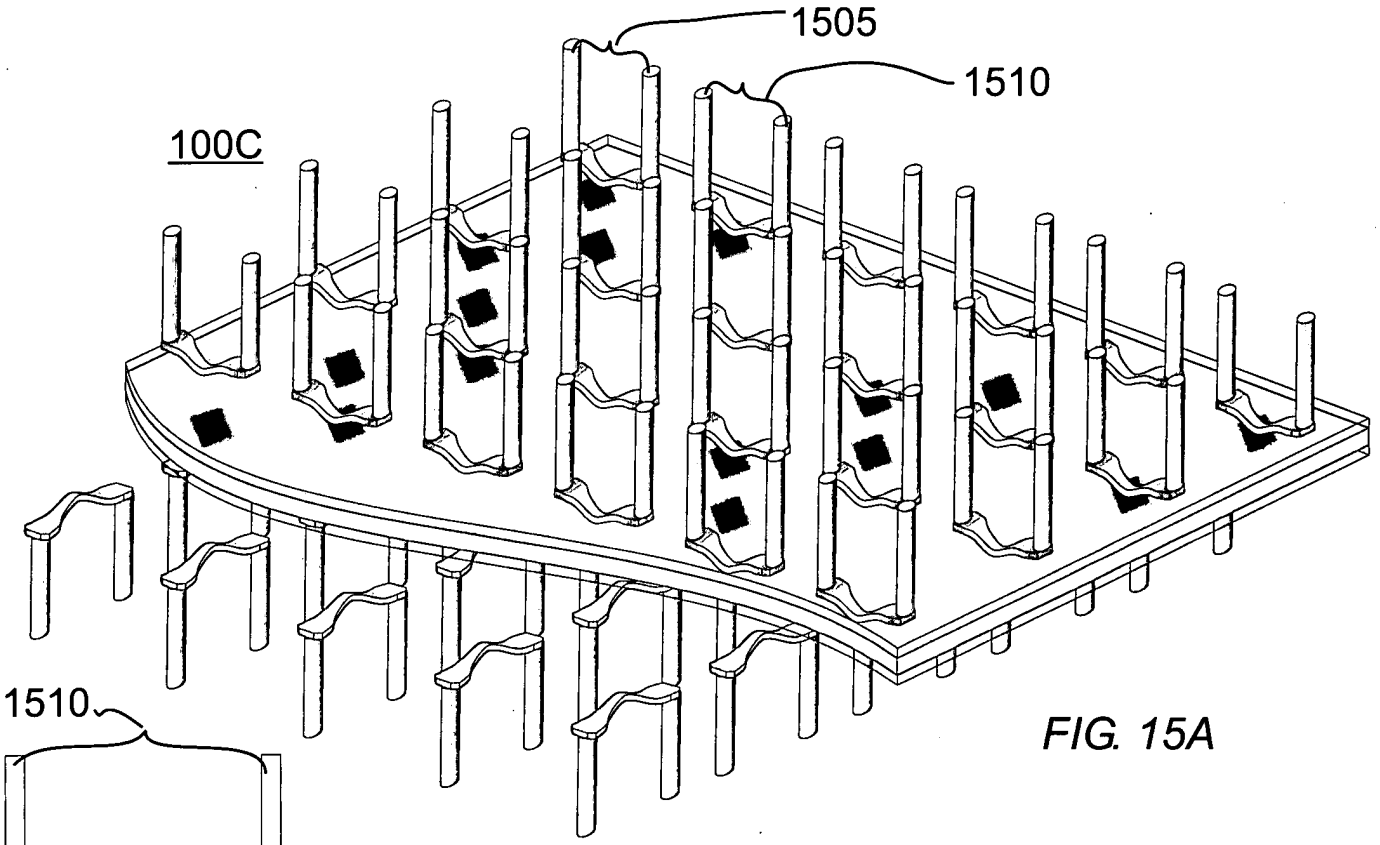


FIG. 15A

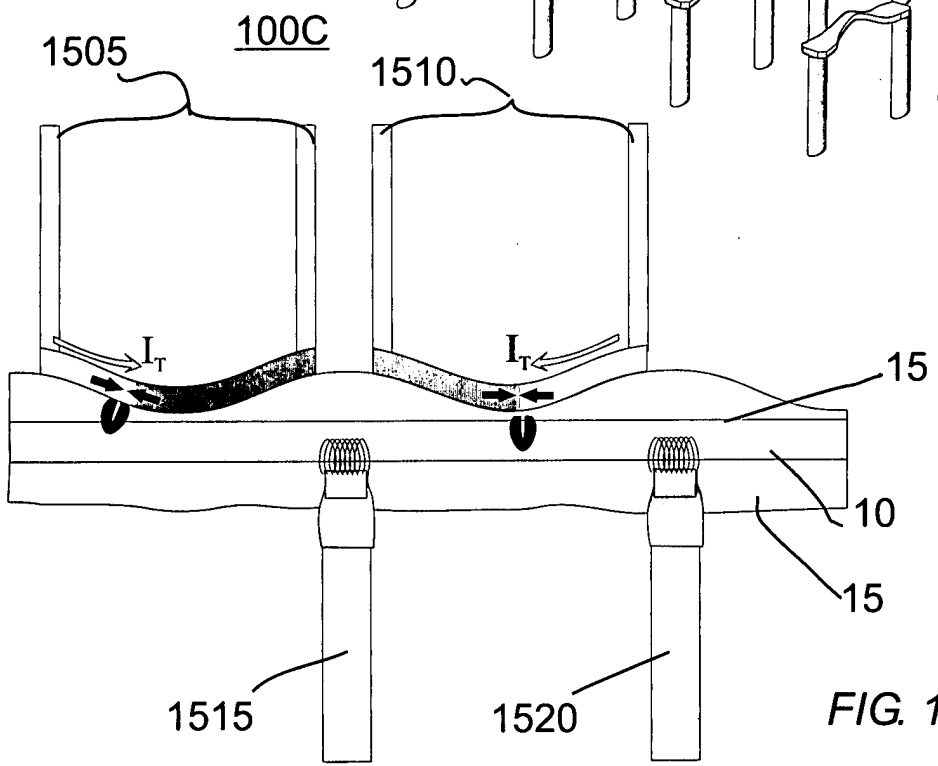


FIG. 15B